Figure 1. *Utricularia biovularioides* at Chapada dos Veradeiros, Brazil. Note the minute red traps. Photo by Fernando Rivadavia. See article this issue.

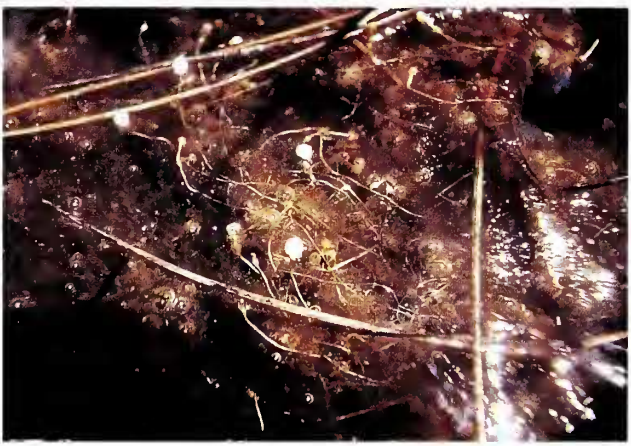

Figure 2. *Utricularia biovularioides* in flower at the Chapada dos Veradeiros, Brazil. Photo by Fernando Rivadavia.

At another site they were crowding the sides of a small rivulet cutting a grassy seepage. The other site was a seepage where they grew among large, semi-aquatic *Drosera hirtella*. Curiously, I only found the *Utricularias* that night while cleaning the Drosera for herbarium, like when I first discovered them. All of these sites seemed to be the type that are wet all year round, which indicates that *U. biovularioides* might be a perennial and not an annual, as Taylor suggested.

Reference:

Taylor, Peter. 1989. The Genus Utricularia - A Taxonomic Monograph. Kew Bulletin Additional Series XIV, Royal Botanic Gardens, Kew.

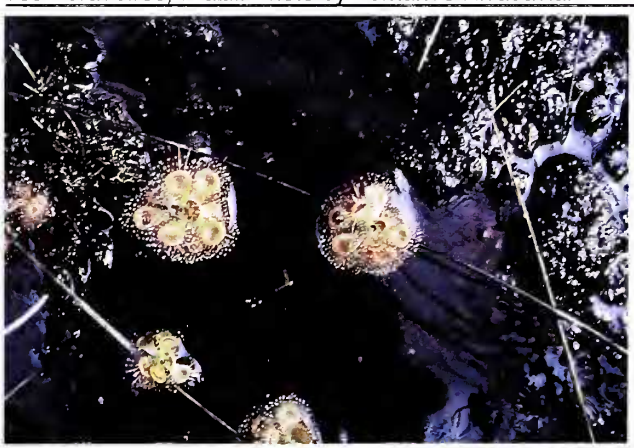

Figure 1. *Drosera sessilifolia* in seepage at the Chapada dos Veradeiros, Brazil. Photo by Fernando Rivadavia.

Drosera sessilifolia

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One of the prettiest native Brazilian sundews is *D.sessilifolia*, a species similar and also closely related to *D. burmanni*, with which it forms Sec-

tion Thelocalyx (Diels 1906). Both species have yellowish leaves, but those of *D. burmanni* are wedge-shaped, almost triangular while *D. sessilifolia* has rounder lamina. In the wild, rosettes tend to become reddish with age, as occurs with *D. burmanni,* though in cultivation they seem to maintain more of this coloration than the latter. The tiny flowers have pink lilac or light-lilac petals (while those of *D. burmanni* are white) and the sepals are often covered with short, stiff, red hairs. Both species have 5 styles segmented at the tip, differing from all other *Drosera* in the American continent, most of which have 3 styles bipartite at the base (Diels 1906). Only *D. meristocaulis* from the Neblina Peak (border between Brazil and Venezuela) has three unbranched styles, being the sole member of section Meristocaulis (Degreef 1990).

The French botanist Auguste de Saint-Hilaire discovered *D. sessilifolia* in Brazil, early in the nineteenth century in western Minas Gerais state, near the São Francisco River and described it in 1824. A *D. dentata* was described by Bentham in 1842 from Guyana, but later synonimized to *D. sessilifolia* by Diels (Diels 1906). I have found wild *D. sessilifolia* at the Chapada dos Guimarães National Park (southern Mato Grosso state), Chapada dos Veadeiros National Park (northern Goiás state, bordering the new state of Tocantins which covers the top half of the old Goiás), and twice in the floodplain of the Paraguay River (once in Mato Grosso and once in Mato Grosso do Sul), a region called the Pantanal.

At the Pantanal *D. sessilifolia* was found in barely humid sandy soil while at the Chap.dos Guimarães and Chap.dos Veadeiros the plants grow in seasonal seepages where a thin film of water infested with stringy algae covers the sandy soil, making it almost look like the rosettes are floating on the water. Seeds germinate below the algae and have to push their way to the surface of the water and are often seen still submerged. At the edges of these seepage sites, *D. sessilifolia* can be seen growing in drier sandy or gravelly soil. At the Pantanal both sites were at around 150 meters of altitude and at the Chap.dos Veadeiros *D. sessilifolia* grew up to approximately 1200 meters.

The first live *D. sessilifolia* I ever saw were brought to me by a friend in mid '91 from southwestern Goiás. Unfortunately none of these lasted very long nor did any seeds germinate. The same happened later on with plants and seeds I brought from the Pantanal, Chap.dos Guimarães, and Chap.dos Veadeiros. I kept getting increasingly frustrated at not being able to cultivate this fascinating CP until one day I discovered it was already established in my collection! *D. sessilifolia* was growing in various pots and I'd been thinking those small plants were hybrids made by local insects between *D. burmanni* and some other *Drosera* (like *D. dielsiana*) which had resulted in *D. burmanni*-like plants with pink lilac flowers and orangish leaves! They must have germinated among CPs I brought back either from the Emas National Park in southwestern Goiás (where I did not find *D. sessilifolia*, since I went there in the dry season, but am sure they do grow there) or from the Chap.dos Guimarães.

It took me quite a few frustrated trips before I actually saw wild *D. sessilifolia*. I only found out it was an annual in mid '92 when I returned to the Chap.dos Guimarães especially to see this species. Imagine my disbelief as I walked over the parched, dry soil where hundreds were claimed to have been growing luxoriously only a few months earlier! The only proof of their previous existence was a single, dead plant. A few days after this maddening surprise, I was over 300km southwest from the Chap.dos Guimarães, somewhere in the middle of the vast Pantanal floodplain. It was the farthest spot from cilvilization I have ever been to and that is where I was finally rewarded with the sight of my first wild *D. sessilifolia*! Yet sadly, the dry season was already taking its toll and there were only a few plants still alive.

As a result of it's annual cycle, *D. sessilifolia* is native to regions where the wet and dry seasons are very distinct. This is probably why it has not been found in southern

and most of southeastern Brazil. Other than my collections from Mato Grosso, Mato Grosso do Sul, and Goiás, plus the TYPE collection from Minas Gerais, I know through herbarium specimens studied at the University of São Paulo that *D. sessilifolia* also grows in the Brazilian states of Acre, Tocantins, Pará, Maranhão, Piauí, Ceará, Paraiba, Pernambuco, and Bahia. More field work should fill in a few gaps and add a few more states to this list, not to mention a few more countries. Other than Brazil, *D. sessilifolia* has only been collected in Venezuela and Guyana, though I am almost sure it will (in the future) be discovered in Paraguay, eastern Bolivia, and northern Argentina, which share the Pantanal floodplain with Brazil. *D. sessilifolia* is likely to be native to other countries like Surinam, French Guiana, Colombia, Peru, and also Bolivia.

In northeastern Brazil the dry season is very harsh and *D. sessilifolia* can be found right up to the coast. The largest specimens I have ever seen (4.5cm in diameter) were collected at the Cajú Island, off the coast of Maranhão, where they probably grow on the edges of fresh-water pools which form amid the sand dunes during the wet season. I have also seen a specimen with a flower scape 52cm in height! In northern Brazil this sundew probably occurs on mountain tops and in pockets of cerrado (Brazilian savanna) amidst the extensive rainforests which cover that region. Surely, *D. sessilifolia*, like other CPs, also invades and colonizes deforested areas in these northern reaches of Brazil.

In '94, Ivan Snyder from Los Angeles was able to hybridize *D. burmanni* with *D. sessilifolia* (which he grew from seeds I sent him from the Chap.dos Guimarães) and we decided to call the cross "*D. x thelocalyxiana*." I had imagined this cross was possible, but had not been able to get both species flowering at the same time. For the few who have seen *D. sessilifolia* in cultivation, the reaction is always the same: "Are you sure that is not *D. burmanni*?" For a while I agreed with Ivan that even though they are geographically very isolated, maybe *D. sessilifolia* should be reduced to a subspecies of *D. burmanni* due to the extreme similarity between the two. Yet after studying *D. sessilifolia* at the Chap.dos Guimarães and Chap.dos Veadeiros again April/May '95 and remembering the wild *D. burmanni* I saw at Litchfield plus Kakadu National Parks in Australia's Northern Territory in mid '93), I believe these truly are separate species.

If we could get *D. sessilifolia* to grow in cultivation as beautifully as it does in the wild, this difference would be obvious. The problem is that in cultivation, Ivan and I have only been able to grow small and depauperate *D. sessilifolia*. I am just not sure if, in the wild, *D. burmanni*'s rosettes are always flat like the ones I saw or if they may also be semi-erect like those of wild *D. sessilifolia*.

References:

1.) Degreef, J.D. 1990. Evolutionary Patterns in *Drosera*. Carnivorous Plant Newsletter. Vol.19: 1&2, p.11-16.

2.) Diels, L. 1906. Droseraceae in: A.Engler (ed.) Das Pflanzenreich 26 Heft IV. Leipzig.

3.) Saint-Hilaire, A. 1824. Droseraceae in Histoire des Plantes les plus Remarquables du Brésil et du Paraguay.

4.) Schlauer, J. 1986. Nomencaltural Synopsis of Carnivorous Phanerogamous Plants. Carnivorous Plant Newsletter. Vol.15: 3&4.

Map -- Known locations of *Drosera sessilifolia* in South America. Prepared by Fernando Rivadavia. See article this issue.

SPECIAL NOTICE

To our great embarrassment, it has been brought to our attention that we slipped up and neglected to acknowledge our new logo that now appears at the top of page two of each issue. This logo was thoughtfully created for us by Paul M. Milauskas who also does some cartoons for us. The updated logo has been appearing since March, 1994 (Vol. 23, no. 1), and is also used on the cover of the CPN binders. Thanks, Paul.